

CLAIMS

What is claimed is:

1. An electrical connection system comprising:
a first electrical connector having a first housing with one
5 or more slots;
a second electrical connector having a second housing; and
a locking device locks the first electrical connector to the
second electrical connector when the locking device is seated over at least a
portion of the first housing and extends through the slots to engage the second
10 housing.
2. The system as set forth in claim 1 wherein the second
housing further comprises one or more locking indents, when the first electrical
connector is coupled to the second electrical connector each of the slots in the first
housing is in alignment with one of the locking indents in the second housing, the
15 locking device extends through the slots into the locking indents to lock the first
electrical connector to the second electrical connector.
3. The system as set forth in claim 1 wherein the locking
device further comprises a central portion with a pair of arms extending from the
central portion, the arms extending through the slots when the locking device is
20 seated over at least a portion of the first housing.
4. The system as set forth in claim 3 further comprising a
handle in the central portion.
5. The system as set forth in claim 4 wherein the handle
comprises an opening in the central portion.
- 25 6. The system as set forth in claim 3 wherein each of the arms
is flexible.
7. The system as set forth in claim 3 wherein the second
housing further comprises one or more locking indents, when the first electrical

connector is coupled to the second electrical connector each of the slots in the first housing is in alignment with one of the locking indents in the second housing, and a portion of each of the arms extend through the one of slots into one of the locking indents.

5 8. The system as set forth in claim 7 wherein each of the arms have one or more projections, each of the projections extends into and mates with one of the locking indents in the second housing through one of the slots in the first housing when the locking device is seated over at least a portion of the first housing to lock the first electrical connector to the second electrical connector.

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 9. The system as set forth in claim 1 wherein the first electrical connector is one of a male electrical connector and a female electrical connector and the second electrical connector is the other one of the male electrical connector and the female electrical connector.

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 10. A method for making an electrical connection system, the method comprising:

 providing a first electrical connector having a first housing with one or more slots;

20 providing a second electrical connector having a second housing; and

 providing a locking device which locks the first electrical connector to the second electrical connector when the locking device is seated over at least a portion of the first housing and extends through the slots to engage
25 the second housing.

 11. The method as set forth in claim 10 wherein providing the second electrical connector further comprises forming one or more locking indents in the second housing, each of the slots in the first housing is in alignment with one of the locking indents in the second housing when the first electrical
30 connector is coupled to the second electrical connector, the locking device extends through the slots into the locking indents to lock the first electrical connector to the second electrical connector.

12. The method as set forth in claim 10 wherein the providing
the locking device further comprises providing a central portion with a pair of
arms extending from the central portion, the arms extending through the slots to
the second housing when the locking device is seated over at least a portion of the
5 first housing.

13. The method as set forth in claim 12 further comprising a
handle in the central portion.

14. The method as set forth in claim 13 wherein the handle
comprises an opening in the central portion.

10 15. The method as set forth in claim 12 wherein the providing
the locking device further comprises forming each of the arms to be flexible.

16. The method as set forth in claim 12 wherein providing the
second electrical connector having the second housing further comprises forming
one or more locking indents in the second housing, when the first electrical
15 connector is coupled to the second electrical connector each of the slots in the first
housing is in alignment with one of the locking indents in the second housing and
when the locking device is seated over at least a portion of the first housing a
portion of each of the arms extend through the one of slots into one of the locking
indents.

20 17. The method as set forth in claim 16 wherein the providing
the locking device further comprises providing one or more projections on each of
the arms, each of the projections extends into and mates with one of the locking
indents in the second housing through one of the slots in the first housing when
the locking device is seated over at least a portion of the first housing to lock the
25 first electrical connector to the second electrical connector.

18. The method as set forth in claim 10 wherein the first
electrical connector is one of a male electrical connector and a female electrical
connector and the second electrical connector is the other one of the male
30 electrical connector and the female electrical connector.

19. A method for securing an electrical connection, the method comprising:

connecting a first housing of a first electrical connector to a second housing of a second electrical connector, the first housing having one or more slots which provide openings to the second housing;

placing a locking device over at least a portion of the first housing so that a portion of the locking device extends through the slots to engage the second housing to lock the first electrical connector to the second electrical connector.

20. The method as set forth in claim 19 wherein the second housing further comprises one or more locking indents and wherein the connecting the first housing of the first electrical connector to the second housing of the second electrical connector further comprises aligning each of the slots in the first housing with one of the locking indents in the second housing and wherein the placing the locking device over at least a portion of the first housing further comprises placing the locking device to extend through the slots into the locking indents to lock the first electrical connector to the second electrical connector.

21. The method as set forth in claim 19 wherein the locking device further comprises a central portion with a pair of arms extending from the central portion, placing a locking device over at least a portion of the first housing further comprises positioning the arms into the slots when the locking device is seated over at least a portion of the first housing.

22. The method as set forth in claim 21 further comprising a handle in the central portion.

23. The method as set forth in claim 22 wherein the handle comprises an opening in the central portion.

24. The method as set forth in claim 21 wherein each of the arms is flexible.

25. The method as set forth in claim 21 wherein the second housing further comprises one or more locking indents and wherein connecting the first housing of the first electrical connector to the second housing of the second electrical connector further comprises aligning each of the slots in the first housing with one of the locking indents in the second housing, and wherein placing a locking device over at least a portion of the first housing further comprises positioning a portion of each of the arms through the one of slots into one of the locking indents.

26. The method as set forth in claim 25 wherein each of the arms have one or more projections and wherein placing a locking device over at least a portion of the first housing further comprises positioning each of the projections into one of the locking indents in the second housing through one of the slots in the first housing.

27. An electrical connection system comprising:
a first electrical connector having a first housing with one or more locking indents;
a second electrical connector having a second housing with one or more slots, each of the slots in the second housing is in alignment with one of the locking indents in the first housing when the second electrical connector is coupled to the first electrical connector;
a locking device having one or more arms and each of the arms has one or more projections, each of the projections extends into one of the locking indents in the first housing through one of the slots in the second housing when the locking device is seated over at least a portion of the second housing to lock the first electrical connector to the second electrical connector.

28. The system as set forth in claim 27 wherein the locking device further comprises a central portion with a pair of the arms extending from the central portion and an opening in the central portion.

29. The system as set forth in claim 27 wherein each of the arms is flexible.

30. The system as set forth in claim 27 wherein the first electrical connector is one of a male electrical connector and a female electrical connector and the second electrical connector is the other one of the male electrical connector and the female electrical connector.

5 31. A method of making an electrical connection system, the method comprising:

providing a first electrical connector having a first housing with one or more locking indents;

providing a second electrical connector having a second
10 housing with one or more slots, each of the slots in the second housing is in alignment with one of the locking indents in the first housing when the second electrical connector is coupled to the first electrical connector;

providing a locking device having one or more arms and
each of the arms has one or more projections, each of the projections extends into
15 one of the locking indents in the first housing through one of the slots in the second housing when the locking device is seated over at least a portion of the second housing to lock the first electrical connector to the second electrical connector.

32. The method as set forth in claim 31 wherein the locking
20 device further comprises a central portion with a pair of the arms extending from the central portion and an opening in the central portion.

33. The method as set forth in claim 31 wherein each of the arms is flexible.

34. The method as set forth in claim 31 wherein the first
25 electrical connector is one of a male electrical connector and a female electrical connector and the second electrical connector is the other one of the male electrical connector and the female electrical connector.

35. A method of securing an electrical connection, the method comprising:

connecting a first housing of a first electrical connector to a second housing of a second electrical connector, the first housing having one or more one or more locking indents the second housing having one or more slots, each of the slots in the second housing is in alignment with one of the locking indents in the first housing when the first and second housings are connected together; and

placing a locking device having one or more arms and each of the arms has one or more projections over at least a portion of the second housing so that each of the arms extend through the slots to engage the first housing and each of the projections extends into one of the locking indents in the first housing through one of the slots in the second housing.

36. The method as set forth in claim 35 wherein the locking device further comprises a central portion with a pair of the arms extending from the central portion and an opening in the central portion.

37. The method as set forth in claim 35 wherein each of the arms is flexible.

38. The method as set forth in claim 35 wherein the first electrical connector is one of a male electrical connector and a female electrical connector and the second electrical connector is the other one of the male electrical connector and the female electrical connector.